

Appn. No. 10/05,913
Response dated January 7, 2005
Reply to Office Action of October 20, 2004

REMARKS/ARGUMENTS

Claims 7, 9 and 13 are pending. Claims 7, 9 and 13 have been rejected. Claim 7 has been amended. New Claims 15 and 16 have been added. The amendment of Claim 7 and new Claims 15 and 16 are supported by the Examples and page 8, lines 16 and 17 of the specification.

THE §102(b)/§103(a) REJECTION

Claims 7, 9 and 13 have been rejected under 35 U.S.C. §102(b) and under §103(b) as being anticipated or rendered obvious by U.S. Patent No. 4,092,286 to Noll et al., (herein, Noll) in view of US. Patent No. 4,507,426, Blake (herein Blake).

The Final Rejection (citing MPEP 2111.3) has maintained the rejection reasoning that the claim language of Claim 7, “the latex is stabilized by a surfactant *consisting essentially of*,” (emphasis added) does not preclude the self emulsifying prepolymer polyurethane dispersions containing an optional external anionic surfactant described by Noll. Even though Applicants disagree as to this interpretation of the claims as argued in the prior response filed July 22, 2004, Applicants have amended the claims to reflect the intent of the previously amended claims and respectfully request the entering of these amendments.

Amended Claim 7 now requires that the latex is “stabilized by a surfactant consisting of an external anionic surfactant,” thus precluding the Noll self emulsifying polyurethanes (i.e., polyurethanes containing internal surfactants). For this reason amended Claim 7 is novel over Noll. Amended Claim 7 is also non-obvious over Noll in view of Blake as follows.

The Final Rejection reiterates that Noll describes the diamine and water extension to form a polyurethane dispersion and the solids content and particle size of the dispersion as claimed in Claim 7 of the present invention. The Final Rejection goes on to state, “[t]he choice of anionic emulsifiers from the ionic emulsifiers from the ionic emulsifiers of column 11, lines 43-45 is not so great as to remove Noll as an anticipating reference as they are the most commonly used

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emulsifiers." In the obvious rejection the same sentence regarding anionic emulsifiers is presented along with, "[i]t would have been obvious to one of ordinary skill in the art at the time of the instant invention to use the instantly claimed emulsifiers because they are shown by Blake to be useful in polyurethane emulsions."

Applicants reiterate from their previous response that Noll is directed to improved self-emulsifying polyurethane dispersions." (col. 1, lines 14-23, lines 45-61) The Noll polyurethane dispersions improve over the prior art internally stabilized polyurethane dispersions by incorporating both non-ionic and ionomer centers in the polyurethane instead of just one type of hydrophilic center (i.e., incorporate two types of internal surfactants). (col. 1, lines 57-68) The particular internal surfactant moieties of Noll are described at col. lines 48-57.

The Final Rejection, to reiterate, states that "the choice of an anionic surfactant from the ionic emulsifiers [of Noll] is not so great as to remove Noll as an anticipating reference." Noll, however, specifically teaches that the polyurethane must have internal surfactants as described above and that the polyurethanes that are formed are self-dispersible. Noll, only describes that the use of external surfactants, preferably ionic emulsifiers, "is also possible, but, of course, not essential." Thus, Noll describes that the external surfactant is not necessary to form the dispersion. Noll also describes that when the amount of the internal surfactant decreases to a low level, the average particle size increases to 5 to 50 micrometers in diameter. (col. 11, lines 13-19)

Amended Claim 7 of the present invention requires that the "polyurethane latex [has] a mean volume average particle size of not greater than about 1 micron . . . wherein the latex is stabilized by a surfactant consisting of an external anionic surfactant." Thus, the invention as claimed in Claim 7 requires an external anionic surfactant in the absence of any other surfactant, other than perhaps traces of other surfactants, including internal surfactants. Consequently, as a whole, Noll not only does not anticipate the present invention (i.e., Noll requires an internal surfactant), but teaches away from the present invention in that Noll requires an internal surfactant and teaches that as the internal surfactant decreases (i.e.,

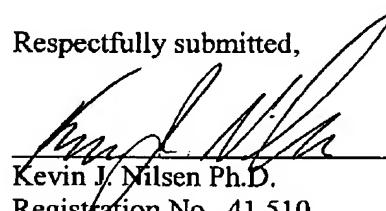
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much greater than 1 micrometer in diameter. For this reason, Claim 7 and claims dependent therefrom are novel and non-obvious, regardless of how Blake is applied to Noll.

New Claim 15 is novel and non-obvious over Noll in a similar way as just described for Amended Claim 7. That is Claim 15 specifically precludes the self emulsifying polyurethanes of Noll and as such is novel over Noll. New Claim 15 in addition requires the particle size and solids content of amended Claim 7, which Noll describes as only being obtainable when using a self emulsifying polyurethane. Consequently, new Claim 15 and claims dependent therefrom are novel and non-obvious over Noll or Noll in view of Blake.

Considering the foregoing reason, Claims 7, 9, 13, 15 and 16 are patentable. Applicants, therefore, respectfully request withdrawal of all rejections and allowance of Claims 7, 9, 13, 15 and 16.

Respectfully submitted,



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